



# Mark Scheme (Results)

June 2023

Pearson Edexcel Level 2 Award  
In Numbers and Measures (ANM20)  
Paper 2A

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## NOTES ON MARKING PRINCIPLES

### 1 Types of mark

M marks: method marks

A marks: accuracy marks

B marks: unconditional accuracy marks (independent of M marks)

### 2 Abbreviations

cao – correct answer only

isw – ignore subsequent working

oe – or equivalent (and appropriate)

indep - independent

ft – follow through

SC: special case

dep – dependent

### 3 No working

If no working is shown then correct answers normally score full marks

If no working is shown then incorrect (even though nearly correct) answers score no marks.

### 4 With working

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.

If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.

If it is clear from the working that the “correct” answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.

If there is no answer on the answer line then check the working for an obvious answer.

Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.

If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

**Follow through marks**

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

**6 Ignoring subsequent work**

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect cancelling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

**7 Parts of questions**

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

**8 Use of ranges for answers**

If an answer is within a range this is inclusive, unless otherwise stated.

Question	Working	Answer	Mark	Notes
1 (i)		12.4	1	B1 cao
(ii)		45.6	1	B1 cao
2 (a)		−11	1	B1 cao
(b)		−15	1	B1 cao
(c)		(+) 5	1	B1 cao
3		71.276	1	B1 cao
4		216	2	M1 for $\frac{1}{2} \times 24 \times 18$ ; do not allow any calculations that may imply perimeter, or are ambiguous in terms of area.  A1 cao
5		350	2	M1 for $1589 \div 4.54$  A1 cao
6 (a)		1225	1	B1 cao
(b)		27	1	B1 cao
(c)		10	2	M1 for 125 or 25 or $\sqrt{150}$ or $\sqrt{100}$  A1 cao

Question	Working	Answer	Mark	Notes
7		9 cm	3	<p>M1 for <math>2880 \div (40 \times 8)</math>  NB: condone absence of brackets at this stage eg <math>2880 \div 40 \times 8</math></p> <p>A1 for 9 given as the numerical part of the answer</p> <p>B1 (indep) for cm given as the units. This mark can be awarded irrespective of the numerical part of the answer, or even if no numerical answer is given.</p>
8		216	2	<p>M1 for a method to calculate 18% of 1200 either directly or by partitioning eg <math>1200 \times 0.18</math> oe or 10% as 120 <b>and</b> 8% as 96 with <math>120+96</math> oe  <b>or</b> 10% as 120 <b>and</b> 1% as 12 with <math>120+12+12+12+12+12+12+12+12</math> oe  <b>or</b> any equivalent method  <b>or</b> 216 seen, then used as part of an extended method eg 1416 or 984</p> <p>A1 cao</p>
9		156.36	4	<p>M1 for <math>32 \times 3.85 (= 123.2)</math> <b>or</b> <math>17 \times 4.25 (= 72.25)</math></p> <p>M1 for <math>32 \times 3.85</math> <b>and</b> <math>17 \times 4.25</math>  <b>or</b> 195.45</p> <p>M1 for “195.45” – 39.09</p> <p>A1 cao</p>
10		192	2	<p>M1 for <math>120 \div 5 (=24)</math> <b>or</b> <math>120 \times 8 (=960)</math> <b>or</b> <math>120 \div 5 \times 8</math> oe</p> <p>A1 cao</p>

Question	Working	Answer	Mark	Notes
11		35.9 to 36	3	<p>M1 for <math>2\pi r</math> or <math>\pi d</math> or <math>2 \times \pi \times 7</math> or <math>\pi \times 14</math> (= 43.9 to 44.0) or <math>\pi \times 28</math> (=87.9 to 88)</p> <p>A1 for an answer in the range 21.9 to 22.0</p> <p>A1 for an answer in the range 35.9 to 36</p>
12		1.6	2	<p>M1 for correctly writing fractions as improper fractions eg <math>\frac{28}{5} \div \frac{7}{2}</math> oe <b>or</b> <math>\frac{28}{5} \times \frac{2}{7}</math> oe <b>or</b> <math>5.6 \div 3.5</math></p> <p>A1 for <math>\frac{56}{35}</math> or <math>\frac{8}{5}</math> or <math>1\frac{3}{5}</math> or <math>1\frac{21}{35}</math> or 1.6 oe</p>
13		48	3	<p>M1 for <math>800 \times 4 \div 100</math> oe (=32) or 832 or <math>800 \times 1.5 \div 100</math> (=12) or 812 or <math>4 \times 1.5 \div 100</math> (=0.06)</p> <p>M1 for <math>800 \times 4 \times 0.015</math> oe or 848 or 752 or 192</p> <p>A1 cao</p>
14		101	3	<p>M1 for evidence of people <math>\times</math> cars eg <math>1 \times 22</math>, <math>2 \times 13</math>, <math>3 \times 9</math>, <math>4 \times 4</math>, <math>5 \times 2</math></p> <p>M1 for evidence of summing people <math>\times</math> cars eg <math>22 + 26 + 27 + 16 + 10</math></p> <p>A1 cao</p>

Question	Working	Answer	Mark	Notes
15		138.9	4	<p>M1 for <math>17 \times 20</math> (=340)</p> <p>M1 for <math>\pi \times 8^2</math> (= 200.96 to 201.14) or <math>64\pi</math></p> <p>M1 for “340” – <math>\pi \times 8^2</math></p> <p>A1 for answer in the range 138.9 to 139.04</p>
16	<p>36 =  <math>2 \times 2 \times 3 \times 3</math>  48 =  <math>2 \times 2 \times 2 \times 2 \times 3</math></p> <p>HCF is  <math>2 \times 2 \times 3 =</math></p>	12	3	<div> <p>M1 for a method to find the factors of 36 (at least 4 from 1, 2, 3, 4, 6, 9, 12, 18, 36) <b>or</b> 48 (at least 4 from 1, 2, 3, 4, 6, 8, 12, 16, 24, 48)</p> <p>M1 for showing one common factor (1,2,3,4,6,12)  <b>or</b> both complete lists of factors</p> <p>A1 cao</p> </div> <div> <p>M1 for factor trees showing at least two prime factors of both numbers (eg 2,2,3,3 and 2,2,2,2,3) <b>or</b> one complete factor tree for 36 or 48  Could be shown in a Venn diagram</p> <p>M1 for showing two complete factor trees for 36 and 48  or showing <math>2 \times 2 \times 3 \times 3</math> <b>or</b> showing <math>2 \times 2 \times 2 \times 2 \times 3</math></p> </div>
17		23	3	<p>M1 for <math>6888 - 5600</math> (=1288) or <math>\frac{6888}{5600}</math> (=1.23) or 0.77 or 123</p>



Question	Working	Answer	Mark	Notes
				M1 for $\frac{1288}{5600}$ or “1.23” – 1 or $1 - “0.77”$ (=0.23) or $123 - 100$  A1 cao
18 (i)		84	3	M1 for division of the shape into rectangles which could then be added (or completes to give two rectangles which could then be subtracted) Can be implied by finding the area of a rectangle (but not $12 \times 8$ )  M1 for a complete method to find the area of the face eg $8 \times 12 - 3 \times 4$ , $3 \times 8 + 5 \times 12$ , $8 \times 8 + 4 \times 5$ , $3 \times 8 + 8 \times 5 + 4 \times 5$  A1 cao for 84
(ii)		840	1	B1 for 840 or ft $10 \times “84”$

